Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

quantity. Astronomers have also reason to believe that the adopted value of aberration is correct within $\frac{1}{1800}$ of the whole quantity. Moreover, Foucault is confident of his determination of the velocity of light within $\frac{1}{600}$ of the whole quantity; nay, he expects to improve his instruments so as to banish all errors larger than $\frac{1}{6000}$ of the whole quantity. Neither the velocity of light, aberration, nor the sun's distance, can be suspected of an error to the extent of three or four per cent, and yet one at least must be wrong to this degree, as the best values of the three elements are irreconcilable with each other. Which shall be changed?

It may excite surprise in those who have heard of the *accuracy* of Astronomy without weighing the exact significance of the word as applied to so large a subject, that there should still be a lingering uncertainty to the extent of three or four millions of miles in the sun's distance from the earth. But the error, whatever it is, is propagated from the solar system into the deepest spaces which the telescope has ever traversed. The sun's distance is the measuring-rod with which the astronomer metes out the distances of the fixed stars, and the dimensions of stellar orbits. An error of three per cent in the sun's distance entails an error of three per cent in all these other distances and dimensions. Trifling as three per cent may seem, the correction runs up to 600000 millions of miles in the distance of the nearest fixed star.

Five hundred and twenty-first Meeting.

May 12, 1863. — MONTHLY MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary (who also acted as Recording Secretary in the absence of the latter officer) read letters relative to the Academy's exchanges; also a letter from W. W. Story, Esq., now at Rome, in acknowledgment of his election as a Fellow.

Mr. Treadwell read a memoir on the effect of cannon-shot upon iron-clad ships and armor-plates generally; this being a sequel to his memoir "On the Practicability of constructing Cannon of Great Caliber," published in the sixth volume of the Academy's Memoirs (1856); the object of this sequel being to show, that the recent application of rifling to cannon is especially advantageous for increasing the size and power of guns made upon the principle proposed by him in the former memoir.

Professor W. B. Rogers exhibited a new form of electrophorus, made of vulcanite, by Mr. Cornelius of Philadelphia, which has the advantage of working perfectly in damp as well as in dry weather. He also showed an adaptation of the same apparatus in another form, for the lighting of gas-lamps.

Professor B. Peirce discoursed on the mathematical properties of the elastic sac, which he thought had some bearing upon physiological problems.

Five hundred and twenty-second Meeting.

May 26, 1863. — ANNUAL MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary, on the part of the Council, read the following Report: —

Upon a revision by the Council of the roll of the Academy, it appears that six Fellows, two Associate Fellows, and two Foreign Honorary Members have been elected into this Society during the past year.

On the Foreign list, Christopher Hansteen was chosen to fill the vacancy left by the death of the venerable Biot, in the First Class and Leopold von Ranke, in place of the late Sir Francis Palgrave, in the Third Class.

The two Associate Fellows, Professor Newton and General Humphreys, are both of the First Class.

Of the six resident Fellows, four were assigned to the First Class, one to the Second, and one to the Third Class.

Nine of our members, — the same number as last year, — viz. two Foreign Honorary Members, four Associate, and three Resident Fellows, have deceased during the year, or at least since the last Annual Report was drawn up.